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AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as follows.

Listing of the Claims

1. (Cancelled)

2. (Currently Amended) ~~The method of claim 1, wherein detecting comprises~~ A method for determining a modulation scheme, comprising:

selecting a ~~modulation~~ hypothesis for the modulation scheme, said hypothesis having an effective channel time span associated therewith, wherein said channel time span has channel taps therewithin;

estimating ~~the~~ an energy value of ~~the~~ a first ~~effective~~ channel tap outside of said effective channel time span; ~~according to the modulation hypothesis to provide an estimated energy value; and~~

comparing the estimated energy value to a ~~an expected~~ predetermined threshold energy value ~~to provide a detection value~~ ; and

determining the modulation scheme if the estimated energy value is below the predetermined threshold energy value.

3. (Currently Amended) The method of claim 2, comprising:

repeating the selecting, estimating, and comparing ~~steps~~ sequentially ~~if the detection value indicates a misdetection of the modulation scheme~~ for each of a plurality of hypotheses for the modulation scheme until the modulation scheme is determined.

4. (Cancelled)

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5. (Cancelled)

6. (Currently Amended) The method of claim ~~5~~ 2, comprising:

~~selecting a modulation hypothesis;~~

estimating an energy value of a second channel tap outside of said effective channel time span; and

summing the estimated energy values of the two ~~or more effective~~ channel taps to provide a sum of estimated energy values; ~~and~~

~~comparing a value of an energy of an effective channel tap according to the modulation hypothesis to the sum of estimated energy values to provide a detection value~~

wherein said comparing comprises comparing the sum of estimated energy values to a predetermined threshold energy value, and wherein said determining comprises determining the modulation scheme if the sum of the estimated energy values is below the predetermined threshold energy value.

7. (Currently Amended) The method of claim 6, comprising:

repeating the selecting, estimating, summing, and comparing steps sequentially if ~~the detection value indicates a misdetection of the modulation scheme~~ for each of a plurality of hypotheses for the modulation scheme until the modulation scheme is determined.

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) ~~The method of claim 9, wherein detecting comprises~~ A method for determining a training sequence comprising:

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selecting a ~~training-sequence~~ hypothesis _for the training scheme, said hypothesis_ _having an effective channel time span associated therewith, wherein said channel time_ _span has channel taps therewithin_;

estimating ~~the~~ an energy _value_ of ~~the~~ _a_ first ~~effective~~ channel tap _outside of said_ _effective channel time span_ ~~according to the training sequence hypothesis to provide~~ ~~an estimated energy~~; and

comparing ~~a value of~~ the estimated energy _value_ to _a_ ~~an expected~~ predetermined threshold _energy value_ ~~to provide a detection value~~ _; and_

determining the training sequence if the estimated energy value is below the _predetermined threshold energy value._

11. (Currently Amended) The method of claim 10, comprising:

repeating _the_ selecting_, estimating,_ and comparing ~~steps sequentially if the~~ ~~detection value indicates misdetection of the training sequence~~ _for each of a plurality_ _of hypotheses for the training sequence until the training sequence is determined._

12. (Cancelled)

13. (Currently Amended) The method of claim ~~9~~ _10_, comprising:

~~selecting a training-sequence hypothesis~~;

estimating an energy value of a second channel tap outside of said effective _channel time span; and_

summing _the_ estimated energy values of the two ~~or more effective~~ channel taps to provide a sum of estimated energy values; ~~and~~

~~comparing a value of an energy of an effective channel tap according to the~~ ~~training sequence hypothesis to the sum of estimated energy values to provide a~~ ~~detection value~~

wherein said comparing comprises comparing the sum of estimated energy values _to a predetermined threshold energy value, and wherein said determining comprises_

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determining the training sequence if the sum of the estimated energy values is below the predetermined threshold energy value.

14. (Currently Amended) The method of claim ~~9~~ 13, comprising:

repeating the selecting, estimating, summing, and comparing steps sequentially ~~if the detection value indicates a misdetection of the training sequence~~ for each of a plurality of hypotheses for the training sequence until the training sequence is determined.

15. (Cancelled)

16. (Currently Amended) An apparatus for determining a property of a received signal comprising:

~~a detector to detect a property of a received signal by estimating an energy of a channel tap which is outside of a channel range;~~

a hypothesis selector to select a hypothesis for the property of the received signal, said hypothesis having an effective channel time span associated therewith, wherein said channel time span has channel taps therewithin;

an energy estimator to estimate an energy of a first channel tap outside of said effective channel time span; and

a comparator to compare the estimated energy value to a predetermined threshold energy value;

wherein the property is determined if the estimated energy value is below the predetermined threshold energy value.

17. (Currently Amended) The apparatus of claim 16, wherein the property of the received signal is a modulation scheme ~~of the receive signal and the apparatus further comprising:~~

~~a hypothesis selector to select a modulation hypothesis;~~

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~~an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and~~

~~a comparator to compare a value of the estimated energy to an expected predetermined threshold.~~

18. (Currently Amended) The apparatus of claim 16, <u>wherein said energy estimator is to estimate an energy of a second channel tap outside of said effective channel time span, and</u> comprising:

an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values<u>;</u>

<u>wherein said comparator is to compare the sum of estimated energy values to a predetermined threshold energy value, and wherein the property is determined if the sum of estimated energy values is below the predetermined threshold energy value.</u>

19. (Currently Amended) The apparatus of claim 16, wherein the property <u>of the received signal</u> is a training sequence ~~of the receive signal and the apparatus further comprising:~~

~~a hypothesis selector to select a training sequence hypothesis;~~

~~an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and~~

~~a comparator to compare a value of the estimated energy to expected predetermined threshold.~~

20. (Currently Amended) A wireless communication device <u>for determining a property of a received signal</u> comprising:

an internal antenna to receive a signal;

~~a detector to detect a property of the received signal by estimating an energy of a channel tap which is outside of a channel range~~

<u>a hypothesis selector to select a hypothesis for the property of the received signal, said hypothesis having an effective channel time span associated therewith, wherein said channel time span has channel taps therewithin;</u>

an energy estimator to estimate an energy of a first channel tap outside of said effective channel time span; and

a comparator to compare the estimated energy value to a predetermined threshold energy value;

wherein the property is determined if the estimated energy value is below the predetermined threshold energy value.

21. (Currently Amended) The wireless communication device of claim 20, wherein the property of the received signal is a modulation scheme of the receive signal and the apparatus further comprising:

a hypothesis selector to select a modulation hypothesis;

an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and

a comparator to compare a value of the estimated energy to an expected predetermined threshold.

22. (Currently Amended) The wireless communication device of claim 20, wherein said energy estimator is to estimate an energy of a second channel tap outside of said effective channel time span, and comprising:

an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values;

wherein said comparator is to compare the sum of estimated energy values to a predetermined threshold energy value, and wherein the property is determined if the sum of estimated energy values is below the predetermined threshold energy value.

23. (Currently Amended) The wireless communication device of claim 20, wherein the property of the received signal is a training sequence of the received signal and the apparatus further comprising:

a hypothesis selector to select a training sequence hypothesis;

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~~an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and~~

~~a comparator to compare a value of the estimated energy to expected predetermined threshold.~~

24. (Currently Amended) A wireless communication system <u>for determining a property of a received signal</u> comprising:

~~a wireless communication device includes a detector to detect a property of the received signal by estimating an energy of a channel tap which is outside of a channel range~~

<u>a hypothesis selector to select a hypothesis for the property of the received signal, said hypothesis having an effective channel time span associated therewith, wherein said channel time span has channel taps therewithin;</u>

<u>an energy estimator to estimate an energy of a first channel tap outside of said effective channel time span; and</u>

<u>a comparator to compare the estimated energy value to a predetermined threshold energy value;</u>

<u>wherein the property is determined if the estimated energy value is below the predetermined threshold energy value.</u>

25. (Currently Amended) The wireless communication system of claim 24, wherein the property <u>of the received signal</u> is a modulation scheme ~~of the received signal and the apparatus further comprising:~~

~~a hypothesis selector to select a modulation hypothesis;~~

~~an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and~~

~~a comparator to compare a value of the estimated energy to an expected predetermined threshold.~~

26. (Currently Amended) The wireless communication system of claim 24, wherein said energy estimator is to estimate an energy of a second channel tap outside of said effective channel time span, and comprising:

    an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values;

    wherein said comparator is to compare the sum of estimated energy values to a predetermined threshold energy value, and wherein the property is determined if the sum of estimated energy values is below the predetermined threshold energy value.

27. (Currently Amended) The wireless communication system of claim 24, wherein the property of the received signal is a training sequence of the received signal and the apparatus further comprising:

    a hypothesis selector to select a training sequence hypothesis;

    an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and

    a comparator to compare a value of the estimated energy to expected predetermined threshold.

28. (Cancelled)

29. (Currently Amended) The article of claim 28 An article for determining a modulation scheme comprising a storage medium, having stored thereon, wherein the instructions, that when executed, result in:

    selecting a modulation hypothesis for the modulation scheme, said hypothesis having an effective channel time span associated therewith, wherein said channel time span has channel taps therewithin;

    estimating the an energy value of the a first effective channel tap outside of said effective channel time span; according to the modulation hypothesis to provide an estimated energy value; and

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comparing the estimated energy value to a ~~an expected~~ predetermined threshold ~~energy value to provide a detection value~~ ; and

determining the modulation scheme if the estimated energy value is below the predetermined threshold energy value.

30. (Currently Amended) The article of claim 29, wherein the instructions, when executed, result in:

repeating the selecting, estimating, and comparing steps sequentially ~~if the detection value indicates a misdetection of the modulation scheme~~ for each of a plurality of hypotheses for the modulation scheme until the modulation scheme is determined.

31. (Cancelled)

32. (Cancelled)

33. (Currently Amended) The article of claim ~~32~~ 29, wherein the instructions, when executed, result in:

~~selecting a modulation hypothesis;~~

estimating an energy value of a second channel tap outside of said effective channel time span; and

summing the estimated energy values of the two ~~or more effective~~ channel taps to provide a sum of estimated energy values; ~~and~~

~~comparing a value of an energy of an effective channel tap according to the modulation hypothesis to the sum of estimated energy values to provide a detection value~~

wherein said comparing comprises comparing the sum of estimated energy values to a predetermined threshold energy value, and wherein said determining comprises determining the modulation scheme if the sum of the estimated energy values is below the predetermined threshold energy value.

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34. (Currently Amended) The article of claim 33, wherein the instructions, when executed, result in:

repeating the selecting, estimating, summing, and comparing steps sequentially ~~if the detection value indicates a misdetection of the modulation scheme~~ for each of a plurality of hypotheses for the modulation scheme until the modulation scheme is determined.

35. (Cancelled)